Michael O. Leavitt
Governor
Ted Stewart
Executive Director
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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
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FACSIMILE COVER SHEET

DATE: MARCH 6, 1997

NUMBER OF PAGES INCLUDING THIS COVER SHEET: 8

TO: STEVE HERRON
SRK

FAX NUMBER: (702) 786-4435

FROM: TONY GALLEGOS PHONE (801) 538-5267
Minerals Reclamation and Development Program

PHONE: (801) 538-5291
FAX: (801) 359-3940

SUBJECT: M/027/006 CONTINENTAL LIME INC.
REVIEW OF PERMIT REVISION

REMARKS: STEVE, HERE IS A DRAFT OF OUR REVIEW COMMENTS. THE FINAL VERSION SHOULD BE OUT BY FRIDAY. SORRY ABOUT THE DELAY.
- SHOULD WE ADDRESS THE LETTER TO YOU OR MICHAEL BROWN?
- "DRAFT" MEANS SOME COMMENTS MAY BE ELIMINATED IN THE FINAL LETTER.

Should you encounter any problems with this copy, or do not receive all the pages, please call

DRAFT*DRAFT*DRAFT

March 6, 1997

Michael R. Brown
Environmental Manager
Continental Lime, Inc.
3950 South 700 East
Salt Lake City, UT 84107

Dear Mr. Brown:

Re: Review of Additional Information Permit Revision, Continental Lime Inc.(CLI), Cricket Mountain Mine, M/027/006, Millard County, Utah

The Division has completed a review of the additional information provided by SRK Consulting Engineers and Scientist on behalf of CLI in response to our October 2, 1996 review letter. The additional information we have reviewed is: a SRK letter dated January 15, 1996(sic) received January 17, 1997, an SRK letter dated January 16, 1996 (sic) received January 21, 1997 requesting tentative approval by February 26, 1997, and an SRK January 23, 1997 letter and bond calculation information received January 27, 1997. After reviewing this information, the Division has several comments which will need to be responded to. The comments are listed separately under the applicable Minerals Rule heading. Please format your response in a similar fashion.

BLM staff have informed us that the Final EA for this revision has not been completed yet. We have not been able to coordinate our review of this proposal with BLM staff. Consequently, the BLM will need to be in agreement with any reclamation treatments proposed for federal lands which are described in this Division review document.

The Division is not prepared to issue a tentative approval for the CLI permit revision at this time. We will suspend our review until your response to this letter is received. We will need to have the issues described in this letter resolved by Thursday March 13, 1997(?) in order to complete the 30-day public comment period prior to the April 23, 1997 Board Hearing. We realize this time frame will require a quick turnaround from CLI and we will do what we can to assist you.

Thank you for your cooperation. If you have any questions in this regard please contact me or the other member of the Minerals staff (Tony Gallegos, Lynn Kunzler, Tom Munson).

Sincerely,
D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

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27/6 P.01

TRANSACTION REPORT

MAR-06-97 THU 02:26 PM

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MAR-06 02:21 PM	17027864435	4'50"	8	SEND	(M) OK	072

TOTAL 4M 50S PAGES: 8

M/027/006

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P. 01

TRANSACTION REPORT

MAR-06-97 THU 10:41 AM

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DATE START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M# DP
MAR-06 10:36 AM	17027864435	4'34"	8	SEND	(M) OK	062

TOTAL 4M 34S PAGES: 8

M/027/006

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FACSIMILE COVER SHEET

DATE: MARCH 6, 1997

NUMBER OF PAGES INCLUDING THIS COVER SHEET: 6

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DRAFT

Review of Permit Revision Information
Continental Lime Inc.(CLI)
Cricket Mountain Mine, M/027/006
March 6, 1997

R647-4-105 Maps, Drawings & Photographs

105.2 Surface facilities map

CLI's response to the BB Dolomite surface facilities acreage question refers to Table 2.1 of the Environmental Assessment (EA). The Division does not have a copy of the Final EA. Please provide us with a copy of the Final EA to resolve this comment. If the Final EA is not available, providing a copy of the revised Table 2.1 would resolve this comment. (AAG)

R647-4-106 Operation Plan

106.5 Existing soil types, location, amount

The operator needs to provide a soils analysis for each of the two soil types identified. This analysis needs to include the following parameters: pH, EC(conductivity), SAR (Sodium Absorption Ratio), Percent Organic Mater, CEC (Cation Exchange Capacity), Total Nitrogen, Nitrate Nitrogen, Phosphorus (as P_2O_5) and Potassium (as K_2O). This analysis is needed to determine the types and rates of soil amendments needed for reclamation. (LK)

The operator has identified approximately 78,100 cubic yards of topsoil that could be salvaged from the areas to be disturbed. This is sufficient volume to cover about 1/3 of the proposed new disturbance with 4-6" of topsoil. While the Division will accept that this amount is all that can be safely salvaged from the site, there remains a deficit of suitable soil material for reclamation. As originally proposed, Continental Lime was to implement a revegetation testplot program to demonstrate that fines and/or other materials could be used to successfully reclaim disturbed areas. To date, the Division has received very little documentation of the testplots that would demonstrate successful revegetation without the use of topsoil. Therefore, the Division may require topsoil borrow areas pending final results of revegetation test plots. The use of topsoil borrow areas will need to be coordinated with other surface management agencies. (LK)

106.7 Existing vegetation-species and amount

The operator apparently hired a consultant to obtain this data. While a description of the vegetation was submitted, no data regarding specific vegetation cover, or methodology used for obtaining vegetation cover estimates was submitted. It is requested that the operator provide the Division with a copy of the vegetation report (Kass, 1996) referenced in the Draft EA. (LK)

106.8 Depth to groundwater, extent of overburden, geology

The EA does not provide the specifics asked for in the Division's October 2, 1996

review document. The unanswered questions regarding groundwater and the well found on site are as follows: Location of the well site on a plate, what aquifer the water is withdrawn from, and how the well was completed. (TM)

R647-4-107 Operation Practices

107.2 Drainages to minimize damage

The response says that it provides the specific information asked for in the review document in section 4.1.5 of the EA. This response found in the EA only addresses, in general, the outcome of the analysis for Waste disposal area #1. Please provide this analysis of Waste Disposal Area #1. No mention of impacts to the other impounded drainages was referenced in the EA and it is appropriate that they are mentioned, as well, in terms of amount of drainage and potential impacts. Please address the specific questions that were not addressed and asked for under this section in the October 2, 1997 review document. These questions are as follows: Will the undersize material stockpile in the BB dolomite quarry area incorporate any design features to bypass or route the drainage which will be blocked by this stockpile? Please provide some specifics on all drainages ephemeral or otherwise that will be affected. (TM)

107.6 Concurrent reclamation

The EA. does not address the current test plots and how that information will be collected and used to enhance future reclamation efforts at the mine site. There was no specifics in the 1996 Annual Report and therefore based on comments found in 106.5 above, it seems appropriate that an effort is made at this time to define the program related to the test plots. (TM)

R647-4-109 Impact Assessment

109.1 Impacts to surface & groundwater systems

The specifics asked for under 107.2 and under the groundwater section 106.8 are to be addressed before this is considered adequate. This involves specifically addressing the water well location, what formation it is found in, and the potential for impact to that aquifer based on the geology and the formation in which the mine will be developed in. (TM)

109.4 Slope stability, erosion control, air quality, safety

The additional information described the highwall configurations, but did not provide specific information regarding highwall stability. The additional information describes the overall pit highwall angle between 18 to 20 degrees. This highwall configuration combined with the safety berm or boulder barricade above the highwall will minimize public exposure to safety hazards, therefore, no additional information regarding highwall stability is required.(AAG)

R647-4-110 Reclamation Plan

110.1 Current & post mining land use

DOGM needs final EA to verify this is OK - LK

110.2 Roads, highwall, slopes, drainages, pits, etc. reclaimed

The third paragraph under this heading on page four of the CLI response refers to Drawing 3-1 (BB Dolomite Quarry) and Drawing 5-1. In this paragraph CLI proposes to regrade the north slope of the Poison Mountain Undersize Material Stockpile to 3H:1V. The south and east sides of this stockpile will be at grade. The west side of the stockpile would be left at angle of repose to avoid covering the existing road located along that side of the dump. The description box shown near the Poison Mountain undersize stockpile on the revised drawing 5-1 states under item one that slopes will be left at angle of repose. The description box and response letter are in conflict. It appears the third paragraph is actually referring to reclamation of the undersize material stockpile located adjacent to the BB Dolomite Quarry rather than the stockpile near the Poison Mountain Quarry. Please clarify this conflict of information. (AAG)

The reclamation proposed for the undersize material stockpile adjacent to the Poison Mountain Quarry is acceptable to the Division as described in the fourth paragraph under this heading of the CLI response. The Division interprets item number two and the dialog box on Drawing 5 to mean that all slopes of the undersize stockpile adjacent to the Poison Mountain Quarry would be regraded to 3H:1V except the portions of the north slopes which would block the drainage if regraded to 3H:1V. If this interpretation is incorrect please provide clarification. (AAG)

110.3 Description of facilities to be left (post mining use)

DOGM needs final EA to verify this is OK - LK

110.5 Revegetation planting program

Scarlet Globemallow was left off the seed mix in the Draft EA. Please explain why this was left out, or preferably, add it back to the seed mix at a rate of ½ pound per acre (PLS). (LK)

R647-4-111 Reclamation Practices

111.1 Public safety & welfare

1.12 Disposal of trash & debris

CLI's response to the question regarding onsite burial of debris refers to subsection 3.1.9 of the EA. This section of the draft EA states all materials would be removed at closure and disposed of in an approved landfill. The removal of demolition debris is acceptable to the Division, however, the reclamation estimate will need to include the cost of debris removal. (AAG)

111.12 Topsoil redistribution

See Comments under R647-4-106.5. (LK)

R647-4-112 Variance

Assuming Continental Lime, Inc. can demonstrate successful revegetation using fines and other materials (through their testplot program), The Division concurs with the soil replacement plan for the estimated 78,100 cubic yards of salvageable topsoil. However, if testplots are not

successful, the Division will require topsoil borrow areas to cover those areas where revegetation would likely be successful (i.e. benches, roads, slopes of dumps, etc.).

Currently there appears to be conflicting plans for seeding. While the variance section states that only areas receiving growth media will be seeded, it appears that other areas of the plan (i.e. reclamation cost estimate) indicate most, if not all areas will be seeded. The Division does not accept the statements that 'the coarse rock angle of the repose slopes of the waste rock disposal areas and the angle of repose portions of the screened undersize material piles will not provide an adequate base for revegetation'. Division personnel have seen other similar areas successfully revegetated after being amended with 20-30 tons/acre of composted manure. Continental Lime, Inc. needs to put more effort into their testplot program to determine how to revegetate non-topsoiled areas. At the present time, the Division will require seeding of all areas disturbed by mining activities except rock outcrop and roads that will be left for post mining land use.

In summary, before the Division can grant the requested variances for topsoil redistribution (R647-4-111.12) and revegetation (R647-4-111-13), Continental Lime, Inc. will need to provide better justification and propose alternate standards for determining reclamation success. (LK)

R647-4-113 Surety

The current reclamation surety posted for the Cricket Mountain Quarry is $330,400 in terms of year 2000 dollars for approximately 169 acres of disturbance. This revision proposes to increase the disturbance by approximately 303 acres and increase the existing surety amount by $408,372. The comments in this section may alter the amount of reclamation surety required for this revision. Please respond to these comments and adjust the reclamation cost estimate accordingly.

Page one (Reclamation Cost Summary) of the reclamation cost estimate will need to be revised to include a 10% contingency increase in the total, followed by five years of escalation at an annual rate of 2.52%. (AAG)

Please provide the acreage **disturbed** for each of the facility types listed in the table on page two of the Reclamation Cost Summary for this proposed revision. You may provide this information in a table form separate from the spreadsheet calculation page if convenient. (AAG)

Page eight of the reclamation cost estimate includes an amendment application and incorporation cost for alfalfa pellets. No mention of alfalfa pellets could be found in the text portions of the submission describing reclamation treatments. Please modify the text describing the reclamation treatments to include the amendments and application rates used in the reclamation cost estimate. (AAG)

Page nine of the reclamation cost estimate, Waste Rock Dump Reclamation, includes a line item for topsoil reapplication to slopes using scrapers. The slopes are shown as being at 37

degrees in subsequent tables. It is assumed that the scrapers transport the soil to the slope areas and a dozer then distributes the soil. If this is the case, please include a description of this work in the reclamation section of the text. (AAG)

This same page (nine) of the estimate shows that no topsoil or seed is to be placed on the slopes of Dump #2, however, soil amendments will be applied to the slopes. The dialog box on Drawing 5-1 does not make the distinction that only select areas will be seeded. Please clarify the dialog box or modify the reclamation estimate appropriately. (AAG)

Page ten of the reclamation cost estimate includes the application of topsoil to tops and slopes for West Quarry Dump #1. The dialog box on drawing 5-1 states tops will be covered with topsoil. It is assumed that the term slopes in the calculation sheet actually refers to benches on the dump. If this is correct, please modify the dialog box(es) to reflect the placement of topsoil on dump tops and benches. Please include similar descriptions in all dialog boxes on Drawing 5-1 regarding the specific areas (tops, benches, slopes) to receive soil, seed and soil amendments as described in the reclamation calculations. If all portions of a feature will receive these treatments please modify the dialog box (e.g. cover all areas with 4" topsoil). (AAG)

Page 32 of the reclamation calculations does not include a line item for seed application to the top of bench one for waste rock dump #4. Please explain this omission. (AAG)

Page 33 of the reclamation calculations lists the total topsoil required for dump #5 (Poison Mtn. Undersize Mtl.) as 34,767 cubic yards. The topsoil reapplication page for this dump listed a soil volume of 30,370 cubic yards. Please explain these different figures. (AAG)

The Poison Mountain Undersize Material Stockpile (also known as the rejects stockpile) was previously bonded for as a disturbance of 27.3 acres at a cost of $30,290. The expansion of this feature by 10.8 acres would not necessarily require a reduction in the reclamation cost estimated for this feature as stated in the SRK Bond Calculation cover letter. (AAG)

Page 41 of the reclamation calculations lists a cost for regrading the north slope of the BB Dolomite Undersize Material as $5,770. This cost is for regrading 69,705 cubic yards of material from an angle of repose slope to a 3H:1V configuration. The hourly dozer production of 1,647 cubic yards used in this calculation seems high for a corrected production figure. The table in the 26th Edition of the Caterpillar Performance Handbook for estimating dozing production gives an uncorrected production of approximately 750 LCY/hr for a D9U with a push distance of 200 feet. Please explain the rationale for this slope regrading cost. (AAG)

On page 46 of the reclamation cost estimate there is no line item cost for the seed application to the top of the BB Dolomite Undersize Mtl. Please explain this omission. (AAG)

Please revise Drawing 5-1 to clearly identify the road sections proposed to be reclaimed as described in the calculations on page 47 of the reclamation cost estimate. (AAG)

Page 54 of the reclamation estimate includes reclamation treatments for the Poison Mtn. Crusher. The disturbed area shown on this page is 4.2 acres. The previous reclamation estimate for this crusher covered 17 acres of area which included the crushing, screening and kiln rock stockpile areas. The previous cost estimate for these 17 acres was $28,620. Reduction of the total surety amount by $28,620 cannot be justified unless the new estimate includes reclamation of all the crushing, screening and kiln rock stockpile area. Please adjust the estimate accordingly to include these areas or explain where they have been included. This same page shows the area for the BB Crusher as 3.7 acres, however Table 2.1 of the Draft EA shows the area as 2.4 acres. Please explain this acreage discrepancy (the final EA may address this). (AAG)

Page 56 of the reclamation estimate describes the level area grading for the crusher facility. The average speed used in calculating productivity for a D9N dozer is shown as six miles per hour. Please justify the use of this speed for grading these areas or recalculate this item using an average speed of three miles per hour. (AAG)

Page 59 of the reclamation estimate describes the structure demolition and disposal for the process facilities. The line item for the process facilities shows a volume of 312,500 CF, a figure for man hours per cubic foot of 0.003, and a cost of $12,619 with the source listed as Means 1995. The value of 0.003 appears to have been used as a cost per cubic foot. The Means 1997 Heavy Construction Cost Data section 020-604-0100 lists a demolition cost for a building of mixed construction type at $0.25/CF. Please provide justification for the amount shown in the calculations or revise this item using the unit cost of $0.25/CF.

This same page (59) includes a unit cost for concrete demolition of $38/CY and lists the source as 1995 NCE. The Means 1997 Heavy Construction Cost Data section 020-754-2500 lists a demolition cost for walls of plain concrete, 12 inches thick at $14.90/SF. The cost would increase if the walls contain steel reinforcement. Please provide justification for the $38/CY unit cost or revise this line item using a $14.90/SF unit cost. (AAG)

attachment:
enclosure:
cc: Steve Herron, SRK
o:\review\m27-06-2.rvw